

Ship out 28

Work Order ID 136962

136962

Page 1

Tuesday, September 22, 2015 8:41:32 AM

Item ID: D2610-042 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Step, EC120 Step
Start Date: 10/05/15 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 10/16/15 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan:  Date: 159-22 Tooling: Date: Run Start *NR1*
QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2610	Rev E

100 Large Fab 0.00

100

Large Fab

Large Fab

Memo

Deburr both ends and bevel aft end for welding

Drill top holes using Drill Jig DT 8171

Open as per Dwg D2678

Deburr holes

Mill cutout on sheet 3 of Dwg D2678 using Jig DT 8173 as a stopper J.C.-L 15/09/24

Drill bottom holes using Drill Jig DT 8172 and DT 8195

Open holes as per dwg

110 QC5- Inspect part completeness to step on W/O 0.00

110

QC

Quality Control

Memo

0.00

1 * SEP 29 2015

DAS
24
9-89

F.T.O.

1509.29

DAS
9
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
☐ OTHER : _____					

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136962

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Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 10/05/15 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 10/16/15 **Req'd Qty:** 1.00 ***1***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run	Start	*NR1*
	Stop	*NR2*

Operation Description

Set Up/ Run Hours

Tool ID	Tool #	Plan Code
---------	--------	-----------

Accept Qty	Reject Qty	Reject Number	Insp. Stamp

120

Weld per dwg A/R Aluminum rod Batch: 30855 0.00

120

Large Fab

Large Fab

Memo	0.00
-------------	-------------

Large Fab

Weld lugs. Use face of cutout as shown on Dwg.

Use D2678 to locate D2613, forward face of lug, using DT 8211 A.

Locate 2nd D2613 Lug off 1st using DT 8072

Weld D2734 end cap

Grind end cap welds flush

Grind end cap welds flush
+ TRIM TO FIT AS PER D120-637 (REF D2678 PAGE 3).

130

QC9- Inspect visual per QSI004- Fusion Welds	0.00
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130

06

Memo	0.00
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Quality Control

SEP 29 2015

DAS
24
9-89

88-
22
9117

DAS
9
9-86

① 15.09.29

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 136962

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136962

Page 3

Item ID: D2610-042

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Step, EC120 Step

Stop ***NS2***

Start Date: 10/05/15 Start Qty: 1.00

1

Cust Item ID:

Required Date: 10/16/15 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

QC5- Inspect part completeness to step on W/O

0.00

140

QC

Memo

0.00

Quality Control

1 15-09-29

150

Chemical Conversion Coat per QSI005 4.1

0.00

150

HandFinish

Memo

0.00

Hand Finishing

1 15-9-30

155

QC7-Inspect Chemical Conversion Coat

0.00

155

QC

Memo

0.00

Quality Control

1 SEP 30 2015 DAS 24 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

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Item ID: D2610-042 Accept ***N900040100*** Setup Start ***NS1***
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Item Name: Step, EC120 Step
Start Date: 10/05/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 10/16/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Large Fab	0.00							
160									
Large Fab	Memo	0.00							
Large Fab	Inspect for foreign object per QSI 024 Install end plate D2683-041. Position with location jig DT8071 Transfer drill 0.098 holes into D2683-041 Open holes to 0.128 Remove D2683-041 Deburr Countersink .128 holes to .218 X100° Touch up holes with alodine Assemble as per dwg								
170	QC5- Inspect part completeness to step on W/O	0.00							
170									
QC	Memo	0.00							
Quality Control									

1 SEP 29 2015 DAS 24 9-30

15-09-29

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Item ID: D2610-042 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Step, EC120 Step
Start Date: 10/05/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 10/16/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3	0.00							
180	<i>m 130746</i>					<i>1</i>	<i>0</i>	<i>15-10-13</i>	<i>92 34 98</i>
Powdercoat	Memo	0.00							
Powder Coating	START TIME: <i>8:05</i>								
	OVEN TEMPERATURE: <i>325°</i>								
	FINISH TIME: <i>8:35</i>								
190	Wing Walk as per dwg QSI005 4.4 Batch <i>11132036</i>	0.00							
190	Large Fab								
HandFinish	Memo	0.00							
Hand Finishing									
200	QC3- Inspect Part Finish	0.00							
200									
QC	Memo	0.00							
Quality Control									
						<i>1</i>	<i>0</i>	<i>15-10-21</i>	<i>DAS 9 9-89</i>

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 136962

Tuesday, September 22, 2015 8:41:32 AM

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Item ID: D2610-042 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Step, EC120 Step
Start Date: 10/05/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 10/16/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	Identify as per dwg & Stock Location: _____	0.00							
210									
Packaging	Memo	0.00							
Packaging									
220	QC21- Final Inspection - Work Order Release	0.00							
220									
QC	Memo	0.00							
Quality Control									

Handwritten: RDD136956, 043, 6, 9.29, OCT 21 2014, MWS, OCT 21 2015, SA 20151021

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

Picklist Print

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Work Order ID: 136962

136962

Parent Item: D2610-042

D2610-042

Parent Item Name: Step, EC120 Step

Start Date: 10/05/15

Required Date: 10/16/15

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP H00.07.20Added inspection for QSI 024EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2613		Manufactured	No			100	Each	220.0000	2	2			
✓ *D2613* Lug, Ec 120 Step									**				DAS 6 9-89
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				Mezz		220							
				15004		42							
				15005		178							
D2674-3		Manufactured	No			100	Each	59.0000	1	1			
✓ *D2674-3* Nut Plate									**				DAS 6 9-89
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				Mezz		59							
				15110		59							
D2682-041		Manufactured	No			100	Each	76.0000	1	1			
✓ *D2682-041* Support Plate, EC 120 Step									**				DAS 6 9-89
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				Mezz		76							
				15393		40							
				15738		36							
D2683-041		Manufactured	No			100	Each	54.0000	1	1			
✓ *D2683-041* End Plate, EC 120 Step									**				DAS 6 9-89
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				Mezz		54							
				15168		18							
				15506		36							

SEP 25 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
				Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
				Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
				Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
				Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
				Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
				Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
				Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				OTHER : ☐			

Picklist Print

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Work Order ID: 136962

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Parent Item: D2610-042

D2610-042

Parent Item Name: Step, EC120 Step

Start Date: 10/05/15

Required Date: 10/16/15

Start Qty: 1.00

Required Qty: 1.00

D2734

Manufactured No

100

Each

62.0000

1

1

D2734

Step End Plate

A2669-45

15.07.28

Location

Loc Qty

Loc Code

WA003

62

430983

12

133142

20

134415

30

Batch: 137402

**

SEP 30 2015

DAS
24
9-89

M7885/3-4-4

Purchased

No

100

Each

7.0000

5

5

M7885/3-4-4

Rivets

**

DAS
6
9-89

Location

Loc Qty

Loc Code

ST557

7

108077

7

MS20426AD3-5

Purchased

No

100

Each

5,090.000

2

2

MS20426AD3-5

Rivet

**

DAS
6
9-89

Location

Loc Qty

Loc Code

GA

4214

4533

4214

ST313

876

4444

876

MS24693-C272

Purchased

No

100

Each

1,090.000

2

2

MS24693-C272

Screw

**

DAS
6
9-89

Location

Loc Qty

Loc Code

ST273A

986

17137

467

17831

519

ST291

104

9370

104

SEP 25 2015

Tuesday, September 22, 2015 8:41:37 AM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																									
								Lead hand / Supervisor Approval Verification																																																									
								QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐			
Misidentified ☐	Past Due ☐																																																																

Picklist Print

Tuesday, September 22, 2015 8:41:37 AM

Page 3

Work Order ID: 136962

136962

Parent Item: D2610-042

D2610-042

Parent Item Name: Step, EC120 Step

Start Date: 10/05/15

Required Date: 10/16/15

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-09

Purchased

No

100

Each

315.0000

2

2

MS27039-1-09

Screw

**

DAS
6
9-89

Location

Loc Qty

Loc Code

FP001

34

18057

34

GA

36

124859

36

ST273A

200

125646

200

ST285

45

124859

31

m129541

2

m130388

12

2
2

NAS1149D0332J

Purchased

No

100

Each

1,781.000

2

2

NAS1149D0332J

Washer

**

DAS
6
9-89

Location

Loc Qty

Loc Code

CA

14

m129682

14

GA

430

m132677

430

ST269

1337

m130325

900

m132677

437

2

D2622-120C

Manufactured

No

110

Each

70.0000

1

AUG 22 2015

D2622-120C

Step Extrusion

**

DAS
24
9-89

Location

Loc Qty

Loc Code

WA003

70

130161

70

2

Tuesday, September 22, 2015 8:41:37 AM

Shop Packet Print

Page 3

DQA: Aut Date: 15/12/09



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: RAI Date: 15/11/27

Work Order update only ☐

Work Order: <u>136962</u> Part No. <u>02610-042</u> NCR No. <u>15-5468</u>	DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Water Jet ☐ Engineering ☐ Machining ☒ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☐ Composite ☐ Supplier ☐					
--	---	--	---	--	--	--	--	--

Date: <u>15/09/24</u>	Step #: <u>100</u>	QTY Effective: <u>1</u>	MRB (QSI042) Approval <u>A.P.</u>
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Description Work Order Deviation	Disposition	
HOLE CUT ON END OF 02678 TOO DEEP	DEVIATION WILL OFFSET ALL MOUNTING HOLES FOR LATER STEP. NOT ENOUGH DATA TO JUSTIFY EFFECTS ON FIT & FUNCTION. RECOMMEND SCRAP & REPLACE <u>02622-120C B30161</u>	15.09.23
		Completed By <u>J.C.L. 15/09/24</u>
		Lead hand / Supervisor Approval Verification
		DAS 9 15-11-11 QC/QA Coordinator Approval DAS 9 15-11-11

Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☒ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☒ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☒ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER: ☐					



DESIGN <i>KE</i>	DRAWN BY <i>KE</i>	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
CHECKED <i>mm</i>	APPROVED <i>KE</i>	DRAWING NO. D2610	REV. E SHEET 1 OF 2
DATE 97.09.18		TITLE EC120 STEP ASSEMBLY SCALE NTS	
A	96.10.22	ORIGINAL ISSUE	
B	97.01.14	HAND DRAWING	
C	97.05.09	REVISED MOUNTING LUGS	
D	97.06.04	REVISED FWD END OF STEP	
E	97.09.18	ADDED NUT PLATE	

RELEASED
970125 KE

TSR A450

EFFECTIVE

DEOs

9083	

Qty -041	Qty -042	Part Number	Description
X		D2610-041	STEP ASSEMBLY LH
	X	D2610-042	STEP ASSEMBLY RH
1	1	D2674-3	NUT PLATE
1		D2678-041	STEP WELDMENT LH
	1	D2678-042	STEP WELDMENT RH
1	1	D2682-041	SUPPORT PLATE
1	1	D2683-041	END PLATE
2	2	AN960JD10L	WASHER
2	2	MS20426AD3-5	RIVET
2	2	MS24693-S272*	SCREW
2	2	MS27039-1-09	SCREW
5	5	M7885/3-4- 2 4	RIVET (OR CR3212-4- 2 4)

TSR 1341

00.10.12
CP 00.10.12

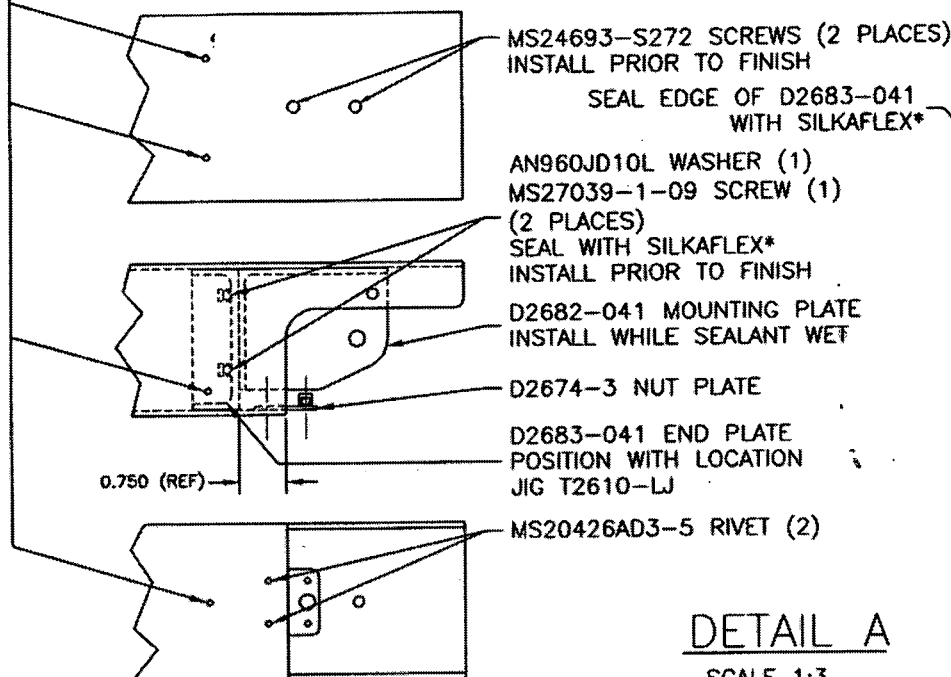
*MS24693-C272 SCREWS MAY BE SUBSTITUTED FOR MS24693-S272 SCREWS

DSA-22

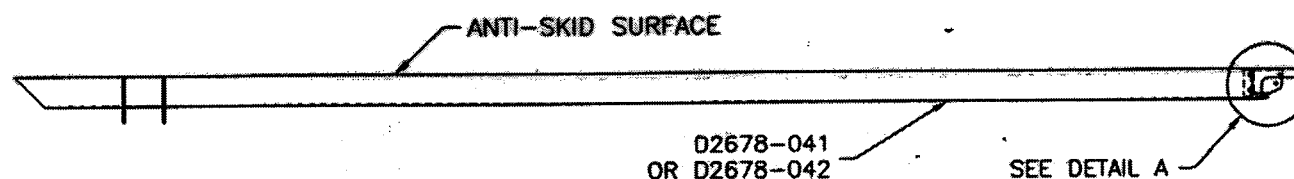
DEO's

9083
97/10/02 KE

Ø0.128 TRANSFER HOLES FROM STEP
C'SINK Ø0.216 x 100'
M7885/3-4-4 (CR3212-4-4) RIVET (5) *# 00.10.12*
(TOUCH UP WITH ZINC CHROMATE PRIMER PER QSI 005 4.2)



DETAIL A
SCALE 1:3



D2610-041 SHOWN (L.H.) (USE D2678-041 WELDMENT)
D2610-042 OPPOSITE (R.H.) (USE D2678-042 WELDMENT)

FINISH: - PRIME PER QSI 005 4.2
OR
- POWDER COAT ASSEMBLY TO CUSTOMER SPEC AS PER QSI 005 4.3
- ANTI-SKID TOP PER QSI 005 4.4 (MASK TO BOTTOM OF RADIUS)
OR
- PAINT ASSEMBLY TO CUSTOMER SPEC AS PER QSI 005 4.2
- ANTI-SKID TOP PER QSI 005 4.4 (MASK TO BOTTOM OF RADIUS)

*NOTE: SILKAFLEX-241 ADHESIVE
PER MANUFACTURER'S SPECIFICATION
POSSIBLE VENDOR: PAYNE'S MARINE SUPPLY

RELEASED
470925 KE
TSR A450

DART



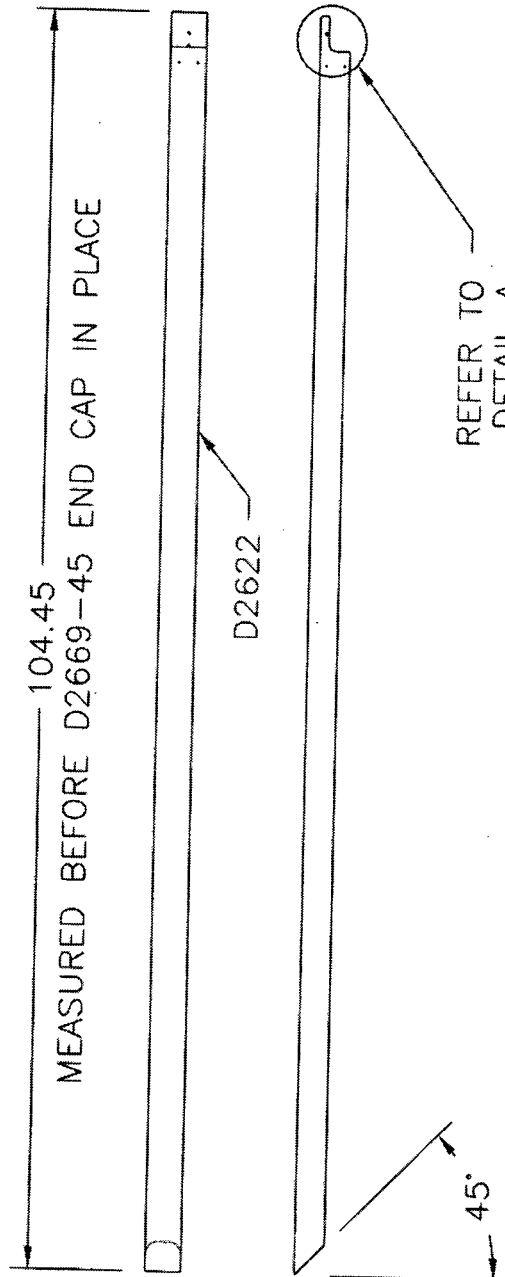
DESIGN	KE	DRAWN BY	KE	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA
CHECKED	PM	APPROVED	PM	
DATE	97.09.18	DRAWING NO.	D2610	REV. E
		TITLE	EC120 STEP ASSEMBLY	SHEET 2 OF 2
		SCALE	1:15	



DESIGN KE	DRAWN BY KE	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D2678	REV. B
DATE 97.09.17		TITLE EC120 STEP WELDMENT	SHEET 2 OF 4
			SCALE 1:15

RELEASED

970925 KE
TSR A450



D

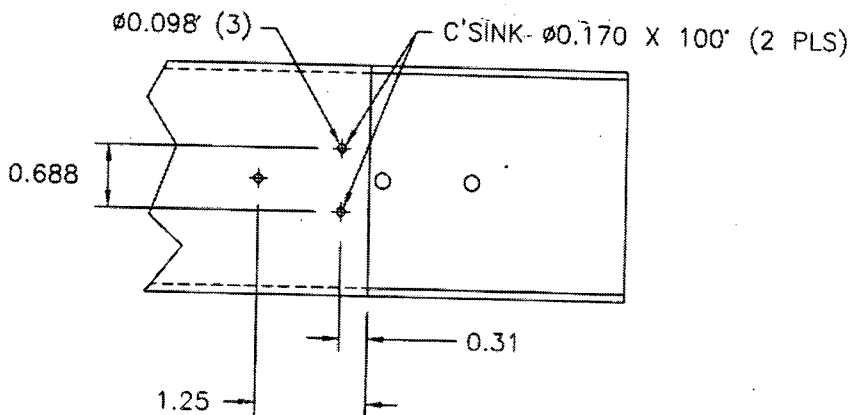
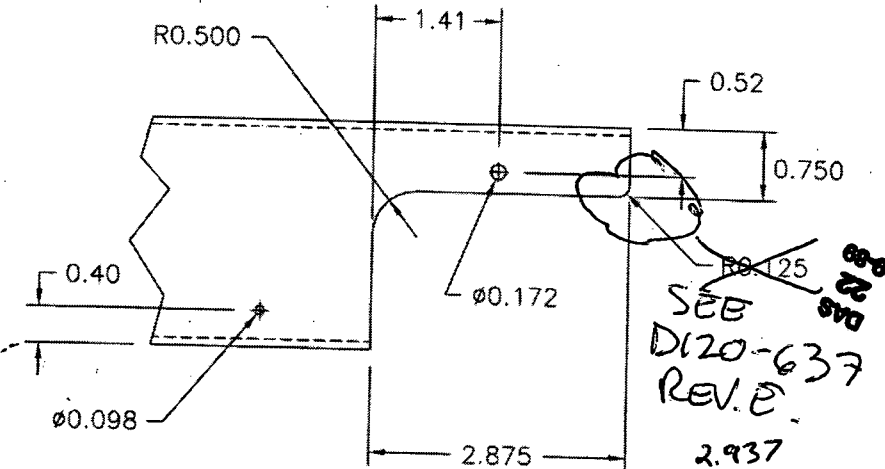
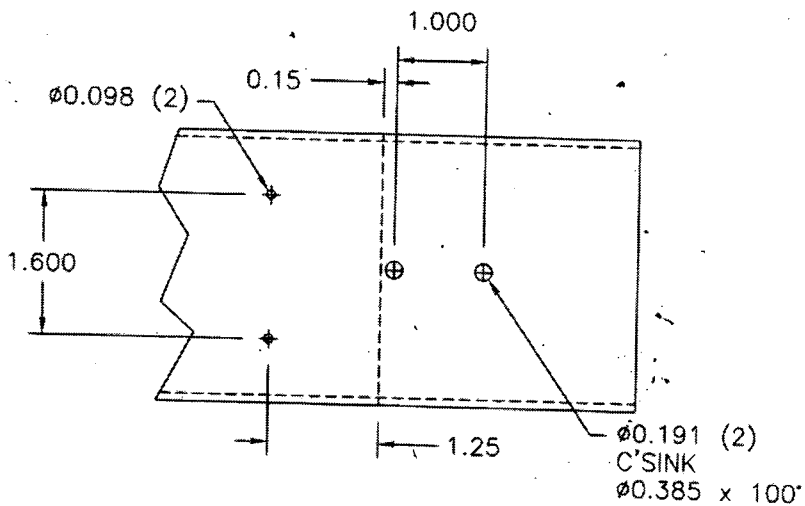
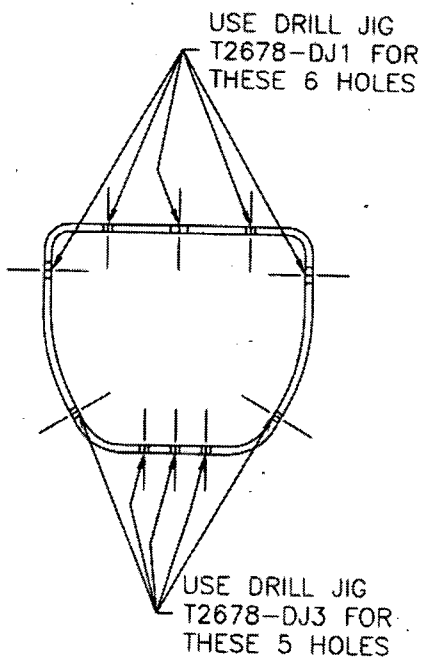
MATERIAL: MAKE FROM D2622 EXTRUSION
FINISH: ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1

DART



DESIGN <i>KE</i>	DRAWN BY <i>KE</i>	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
CHECKED <i>KE</i>	APPROVED <i>KE</i>	DRAWING NO. D2678	REV. 8 SHEET 3 OF 4
DATE 97.09.17		TITLE EC120 STEP WELDMENT	SCALE 1:2

RELEASED
970925 KE
TSR AUG



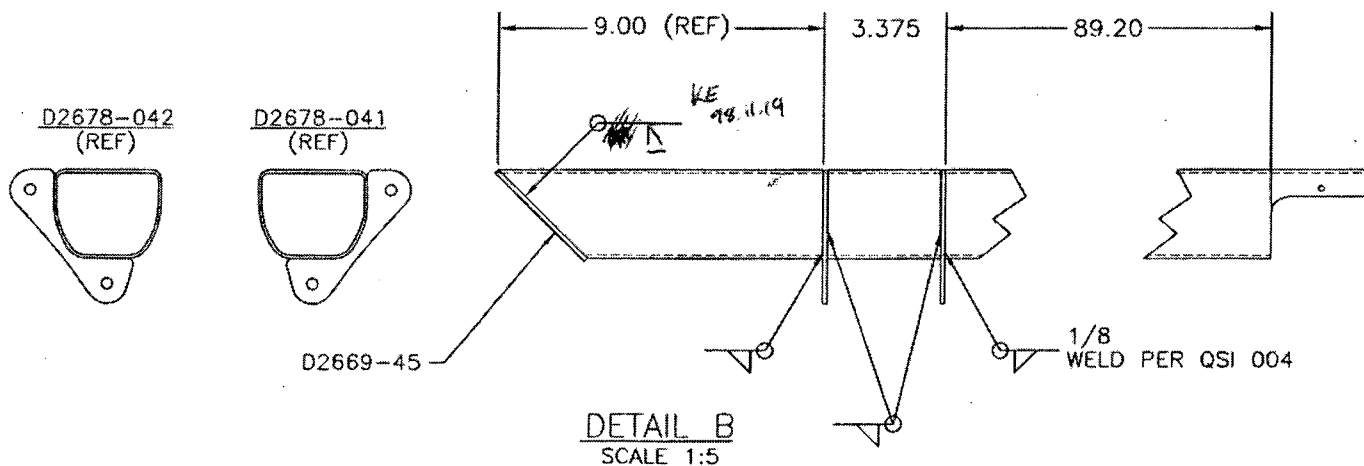
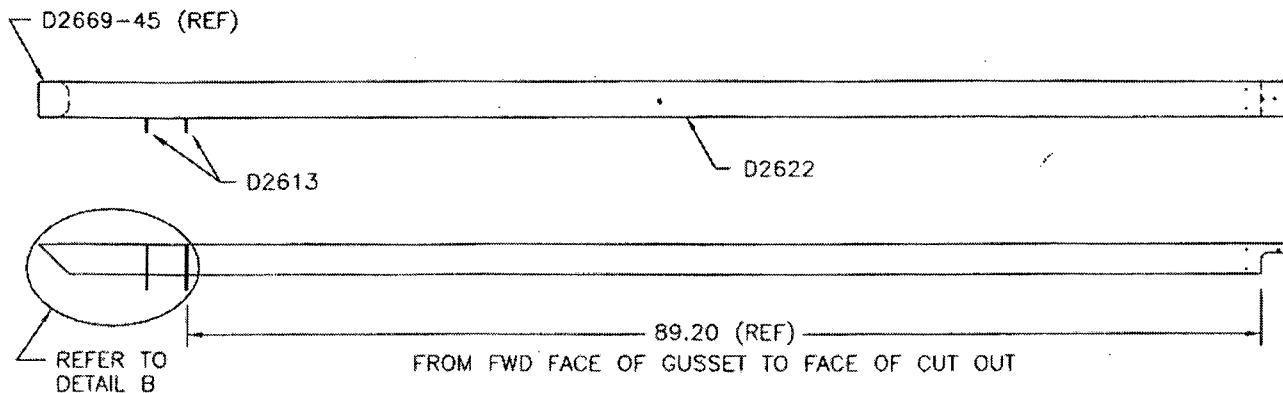
DETAIL A

DART



DESIGN	KE	DRAWN BY	KE	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
CHECKED	KE	APPROVED	KE	DRAWING NO.	REV. B
DATE	97.09.17			D2678	SHEET 4 OF 4
				EC120 STEP WELDMENT	SCALE 1:15

RELEASED
470025 KE
TSR 4490



D2678-041 SHOWN (L.H.)
D2678-042 OPPOSITE (R.H.)



DESIGN KE	DRAWN BY KE	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
CHECKED D10	APPROVED BWS	DRAWING NO. D120-637	REV. E SHEET 4 OF 6
DATE 97.09.24		TITLE EC120 HELI-ACCESS-STEP	SCALE NTS

SECTION A-A

AN4-14A BOLT (1)
AN960JD416 WASHER (2)
MS21042L4 NUT (1)
D2617-3 BUSHING (1)
D2617-5 SPACER (2)

AN4-16A BOLT (1)
D2274 RADIUS BLOCK (2)
AN960JD416 WASHER (2)
D2679 CLAMP (1)
MS21042L4 NUT (1)
(2 PLACES)

END SHOWN FOR
CLARITY

D2616-1 LH SHOWN
D2616-2 RH OPPOSITE
MOUNTING LUG

DAS
22 15.09.30
9-CB

Trim
TO FIT.

AN526C832R8 SCREW
AN960JD8 WASHER
3 PLACES

D2619-041 COVER

D2679 (REF)

SEE SHEET 6 FOR REPLACEMENT
PARTS OF D2610-041 AND
D2610-042 STEP ASSEMBLIES

DART AEROSPACE LTD		Work Order:	
Description: EC120 step weldment		Part Number:	
Inspection Dwg: D2678 Rev: B		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
104.45"	$\pm .030$ "	104.45"	✓			
45°	$\pm 1/2^\circ$	45°	✓			
89.20"	$\pm .030$ "	89.150"	✓			Ref
9.00"	$\pm .030$ "	8.980"	✓			Ref
3.375"	$\pm .010$ "	3.385"	✓			
89.20"	$\pm .030$ "	89.150"	✓			Ref
.098"	$\pm .004$ $-.001$	.098"	✓			
.15"	$\pm .030$ "					
1.000"	$\pm .010$					
.191"	$\pm .005$ $-.001$	.191	✓			
.385" X 100°	$\pm .006$ $-.001$ $\pm 1/2^\circ$	.385" X 100°	✓			
1.25"	$\pm .030$ "	1.25"	✓			
1.600"	$\pm .010$ "	1.610"	✓			
R.500	$\pm .010$ "	R.500	✓			
1.41"	$\pm .030$ "	1.44	✓			
.52"	$\pm .030$ "	.52"	✓			
.750"	$\pm .010$	.750"	✓			
R.125"	$\pm .010$	R.125"	✓			
.172"	$\pm .010$	.172"	✓			

Measured by: ALIC 22 2015 BAS	Audited by: <i>JB</i>	Preliminary Approval:
Date: 24 8-09	Date: 15-09-22	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

